

THE EFFECT OF GREEN ACCOUNTING AND ENVIRONMENTAL PERFORMANCE ON FINANCIAL PERFORMANCE AS MEASURED BY ROA IN MANUFACTURING INDUSTRY COMPANIES LISTED ON THE IDX IN THE 2021-2024 PERIOD

Martha Vania Rahayu¹

Kusharyanti²

Dwi Sudaryati³

¹²³ Universitas Pembangunan Nasional Veteran Yogyakarta
242241007@student.upnyk.ac.id

Abstract: *This study aims to analyze the influence of green accounting and environmental performance on the financial performance of manufacturing companies listed on the Indonesia Stock Exchange (IDX) during the 2021–2024 period. This study uses a quantitative approach with secondary data obtained from annual reports, corporate performance reports, and publications of the Corporate Performance Rating Program in Environmental Management (PROPER). The sample was selected using a purposive sampling method, resulting in 13 manufacturing companies that met the study criteria. Data analysis was performed using multiple linear regression. The results show that green accounting has a positive effect on financial performance, indicating that the implementation and dissemination of environmental activities can increase stakeholder trust and company operational efficiency, thus impacting profitability. Furthermore, environmental performance, as measured by the PROPER rating, also has a positive effect on financial performance, implying that companies with good environmental performance tend to gain a better reputation and support from investors, thus improving their financial performance.*

Keywords: *Green Accounting, Environmental Performance, Financial Performance, Profitability.*

Introduction

National economic growth is heavily influenced by the manufacturing sector, which serves as the primary driver of the economy. This sector is capable of creating added value through raw material processing, increasing exports, and creating jobs (Prabowo, 2025). However, intensive production activities also have the potential to negatively impact the environment, requiring companies to focus not only on financial performance but also on sustainability.

One approach that companies can implement to integrate environmental aspects into business activities is green accounting. The implementation of green accounting encourages companies to manage their environmental impacts more responsibly and increase transparency to stakeholders. For business owners, this practice has the potential to improve the company's image and attract investors, which can ultimately have a positive impact on company profitability. Research (Nailil Fitri Fatun, 2024). by Safitri *et al.*, (2025) stated that *green accounting* has a positive effect on profitability. However, research conducted by Yayu *et al.*, (2023) and Dita and Ervina (2021) shows that green accounting has no effect on financial performance.

In addition to green accounting, environmental performance is also a crucial factor in assessing a company's commitment to environmental impact management. In Indonesia, a company's environmental performance is measured through the Corporate Performance Rating Program in Environmental Management (PROPER). Good environmental performance reflects regulatory compliance and a company's environmental responsibility, potentially enhancing the company's reputation and attractiveness to investors (Utami *et al.* , 2025). Previous research also showed inconsistent results. Theana & Dewi's research (2025) found that environmental performance positively impacted profitability. However, research conducted by Anthoni & Cerya (2022) and Nailil Fitri Fatun (2024) showed that environmental performance had no impact on financial performance. The discrepancies in these research results indicate a persistent research gap regarding the influence of green accounting and environmental performance on corporate financial performance. Therefore, this study aims to re-examine the influence of green accounting and environmental performance on financial performance in manufacturing companies listed on the Indonesia Stock Exchange (IDX) during the 2021–2024 period.

Literature Review

Stakeholder Theory

This theory, put forward by R. Edward Freeman (2005) , states that stakeholders are individuals or groups that can influence or are influenced by the achievement of a company's goals. Stakeholders include shareholders, employees, customers, suppliers, the government, the community, and other relevant parties. Companies are responsible not only to shareholders but also to all stakeholders. Good relationships with stakeholders are essential for creating competitive advantage and long-term corporate sustainability.

Financial performance

Financial performance measures a company's ability to generate profits over a specific period. This performance is generally measured using profitability ratios, such as Return on Assets (ROA), which indicates a company's ability to generate profits from total assets. Good financial performance reflects operational stability, competitiveness, and a company's ability to meet obligations and make long-term investments.

Green Accounting

Green accounting is a recording and reporting system that calculates the environmental costs and benefits of a company's activities. This concept aims to provide more comprehensive information regarding environmental impacts in business decision-making. The application of green accounting helps companies identify the financial benefits of sustainable business practices. (Sudarmanto *et al.* , 2024) .

Environmental Performance

Environmental performance reflects a company's efforts to protect and manage the environment and comply with applicable regulations. In Indonesia, environmental performance is measured through the Corporate Performance Rating Program in Environmental Management (PROPER). Good environmental performance demonstrates a commitment to sustainability and can enhance stakeholder trust and a company's reputation (Dita & Ervina, 2021) .

Hypothesis Development

The Impact of Green Accounting on Financial Performance

Companies that implement green accounting seek to gain legitimacy from the public by demonstrating concern for the environment. Transparent disclosure of environmental information

can increase stakeholder trust, including investors, which ultimately has a positive impact on the company's financial performance. Furthermore, companies that are able to meet the interests of various stakeholders tend to have better financial performance because they receive ongoing support from their business environment. Several previous studies have found that green accounting has a positive effect on financial performance through operational cost efficiency, good environmental management, and regulatory compliance that reduce the risk of sanctions or fines. When green accounting practices are integrated into business strategy, this can become a competitive advantage that contributes to increased profitability (Wardani & Achyani, 2025) . However, another study conducted by Yayu *et al.*, (2023) stated that green accounting has no effect on financial performance. Therefore, this hypothesis states that the implementation of green accounting has a positive effect on a company's financial performance because it can increase company profits. Based on the explanations outlined above, the following hypothesis can be written:

H1: Green Accounting has an impact on Financial Performance as measured by Return on Assets (ROA).

The Influence of Environmental Performance on Financial Performance

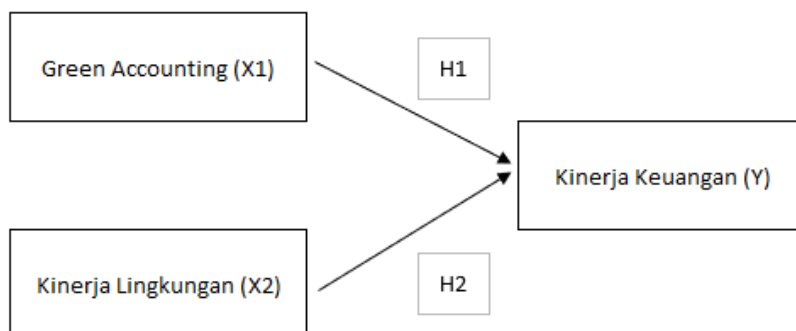
Environmental performance reflects the extent to which a company is able to manage the impact of its operational activities on the environment and comply with applicable environmental regulations. Companies with good environmental performance demonstrate a commitment to sustainability, regulatory compliance, and social responsibility to the community and stakeholders. Research conducted by Theana and Dewi (2025) and Wardani & Achyani (2025) found that environmental performance has a significant positive effect on profitability. Meanwhile, research conducted by Pratiwi and Suripto (2022) found that environmental performance has no effect on financial performance. Environmental performance is less popular among the public and has not been able to attract investor interest. Therefore, this hypothesis states that companies with good environmental performance tend to gain more trust from stakeholders and investors, thus positively impacting profitability and business sustainability. Based on the explanations outlined above, the following hypothesis can be written:

H2: Environmental performance has an impact on financial performance as measured by Return on Assets (ROA).

Conceptual Framework

Based on the literature review above, the conceptual framework of this study describes the relationship between green accounting and environmental performance, on the financial performance of manufacturing industry companies.

Figure 1: Conceptual Framework



Based on the literature review that has been described, the conceptual framework of this study describes the causal relationship between green accounting (X1) measured using the GRI Index method, environmental performance (X2) measured using the PROPER rating as an indicator of the Company's compliance with environmental management, and both are expected to influence financial performance (Y) measured using ROA. The conceptual framework in this study describes the relationship between independent and dependent variables that are interrelated and empirically tested. The main objective of this research framework is to determine green accounting and environmental performance on financial performance in manufacturing industry companies.

Method

This study uses a quantitative approach with secondary data obtained from annual reports and sustainability reports of manufacturing companies listed on the Indonesia Stock Exchange (IDX) during the period 2021–2024. The study population included 222 companies, with purposive sampling technique based on criteria such as data availability, participation in the PROPER program, and environmental information disclosure. Based on these criteria, 13 companies were selected as research samples with a total of 52 observations (13 companies × 4 years).

The dependent variable in this study is financial performance, measured using Return on Assets (ROA). The independent variables consist of green accounting, measured using the GRI index with a dummy variable approach, and environmental performance, measured based on the Ministry of Environment and Forestry's PROPER rating on a scale of 1–5. Data analysis was performed using SPSS version 21 software through descriptive statistical analysis, classical assumption tests, multiple linear regression analysis, and hypothesis testing.

Results and Discussion

Descriptive Statistical Analysis Test

Table 1: Results of Descriptive Statistical Analysis Test

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
Green Accounting	52	3	12	8.60	2.659
Kinerja Lingkungan	52	3	5	3.62	.690
ROA	52	.01	.93	.1386	.17532
Valid N (listwise)	52				

This table shows descriptive statistics from 52 observations on three variables: green accounting (X1), environmental performance (X2), and financial performance (Y). The green accounting variable has a minimum value of 3, a maximum of 12, and an average of 8.60, and is homogeneous. The environmental performance variable has a minimum value of 3, a maximum of 5, and an average of 3.62, and is also homogeneous. The financial performance variable has a minimum value of 0.01, a maximum of 0.93, and an average of 0.1386, and is heterogeneous.

Classical Assumption Test

Normality Test Results

Table 2: Normality Test Results

One-Sample Kolmogorov-Smirnov Test

		Unstandardized Residual
N		52
Normal Parameters ^{a,b}	Mean	0,0000000
	Std. Deviation	0,31546253
Most Extreme Differences	Absolute	0,095
	Positive	0,095
	Negative	-0,085
Test Statistic		0,095
Asymp. Sig. (2-tailed)		,200 ^{c,d}

a. Test distribution is Normal.

b. Calculated from data.

The normality test in this study was conducted using the One-Sample Kolmogorov–Smirnov Test on unstandardized residuals with a total of 52 observations. The test results showed an Asymp. Sig. (2-tailed) value of 0.200, which is greater than the 0.05 significance level. Thus, it can be concluded that the residuals in the regression model are normally distributed. Therefore, the normality assumption in the regression analysis has been met, so the regression model is suitable for further testing.

Multicollinearity Test Results

Table 3: Multicollinearity Test Results

		Coefficients ^a					Collinearity Statistics	
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Tolerance	VIF
		B	Std. Error	Beta				
1	(Constant)	-4,860	0,246		-19,771	0,000		
	Kinerja_lingkungan	0,950	0,072	0,668	13,241	0,000	0,827	1,209
	Green_Accounting	0,166	0,019	0,449	8,890	0,000	0,827	1,209

a. Dependent Variable: ROA

Based on the results of the multicollinearity test shown in the *Coefficients table*, it is known that the environmental performance and green accounting variables have a tolerance value of 0.827 and a Variance Inflation Factor (VIF) value of 1.209. The tolerance value is greater than 0.10 and the VIF value is less than 10. Thus, it can be concluded that there is no multicollinearity between the independent variables in the regression model. This indicates that the environmental performance and green accounting variables are not highly correlated with each other, so that each variable can explain its effect on financial performance (ROA) independently. Therefore, the regression model used in this study is feasible and meets the multicollinearity assumptions.

Autocorrelation Test Results

Table 4: Autocorrelation Test Results

Model Summary ^b					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	,947 ^a	0,897	0,893	0,32184	0,982

a. Predictors: (Constant), Green_Accounting, Kinerja_lingkungan

b. Dependent Variable: ROA

Based on the results of the autocorrelation test in the *Model Summary table*, the Durbin-Watson value was obtained as 0.982. The Durbin-Watson value is between -2 and +2, so it can be concluded that there is no autocorrelation in the regression model used.

Thus, the residuals in the regression model are independent or uncorrelated. This indicates that the regression model meets the autocorrelation assumption and is suitable for further analysis.

Multiple Regression Analysis Test Results

Table 5: Results of Multiple Linear Regression Analysis Test

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-4,860	0,246		-19,771	0,000
	Kinerja_ lingkungan	0,950	0,072	0,668	13,241	0,000
	Green_Accounting	0,166	0,019	0,449	8,890	0,000

a. Dependent Variable: ROA

The regression equation formed for the green accounting and environmental performance variables on financial performance (ROA) is as follows:

$$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \epsilon$$

Based on the results of multiple linear regression analysis, the regression equation obtained ROA = -4.860 + 0.950 environmental performance + 0.166 green accounting. The constant value of -4.860 indicates that if environmental performance and green accounting are zero, then ROA is -4.860. This constant value is only a starting point for the model and is not interpreted separately because in practice, the independent variable cannot be zero.

The test results show that environmental performance has a regression coefficient of 0.950 with a significance value of 0.000, thus having a positive and significant effect on ROA. Green accounting also has a regression coefficient of 0.166 with a significance value of 0.000, indicating a positive and significant effect on ROA. Based on the standardized beta value, environmental performance is the variable that has the most dominant influence on financial performance (ROA).

F test

Table 6: F-Test Results

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	44,108	2	22,054	212,919	,000 ^b
	Residual	5,075	49	0,104		
	Total	49,183	51			

a. Dependent Variable: ROA

b. Predictors: (Constant), Green_Accounting, Kinerja_ lingkungan

Based on the results of the F test in the *ANOVA table*, the calculated F value was 212.919 with a significance value of 0.000, which is smaller than 0.05. This indicates that environmental performance and green accounting variables simultaneously have a significant effect on financial performance (ROA). Thus, it can be concluded that the regression model used in this study is

feasible and able to explain the relationship between the independent variables and the dependent variable, so that the simultaneous hypothesis in this study is accepted.

t-test

Table 7: t-Test Results

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-4,860	0,246		-19,771	0,000
	Kinerja_lingkungan	0,950	0,072	0,668	13,241	0,000
	Green_Accounting	0,166	0,019	0,449	8,890	0,000

a. Dependent Variable: ROA

Coefficients table, the t-test results show the influence of each independent variable on financial performance as proxied by Return on Assets (ROA).

1. The Effect of Green Accounting on Financial Performance
 The t-test results show that the green accounting variable has a regression coefficient value of 0.166 with a calculated t-value of 8.890 and a significance level of 0.000 (<0.05). These results indicate that the implementation of green accounting has a positive and significant effect on financial performance (ROA). This means that the higher the level of green accounting implementation in a company, the company's financial performance also tends to increase. Thus, the hypothesis stating that green accounting has a positive effect on financial performance is accepted.
2. The Effect of Environmental Performance on Financial Performance
 The t-test results show that the environmental performance variable has a regression coefficient value of 0.950 with a calculated t-value of 13.241 and a significance level of 0.000 (<0.05). This indicates that environmental performance has a positive and significant effect on financial performance (ROA). Thus, it can be concluded that the better the company's environmental performance, the better the company's financial performance. Therefore, the hypothesis stating that environmental performance has a positive effect on financial performance is accepted.

Discussion

The Impact of Green Accounting on Financial Performance

The results of the hypothesis testing indicate that green accounting has a positive and significant effect on the financial performance of manufacturing companies, as measured by Return on Assets (ROA). This is indicated by a positive regression coefficient of 0.166, a calculated t-value of 8.890, and a significance level of 0.000 (<0.05). These findings indicate that the higher the level of green accounting implementation in a company, the more likely the company's financial performance will improve.

Conceptually, a positive regression coefficient indicates a direct relationship between green accounting and financial performance. This means that increased disclosure and implementation of green accounting practices not only reflect a company's concern for the environment but also have a beneficial economic impact. The implementation of green accounting encourages companies to manage resources more efficiently, minimize waste, and mitigate environmental risks that could potentially incur additional costs in the future.

The results of this study support the findings of Wardani and Achyani (2025) and Safitri *et al.*, (2025), which stated that green accounting has a positive effect on financial performance. These studies confirm that green accounting practices integrated with business strategy can provide a competitive advantage for companies.

Thus, the results of this study provide empirical evidence that green accounting is not always viewed as a mere cost burden, but rather can be a long-term investment that supports improved company financial performance. Therefore, the hypothesis that green accounting has a positive effect on financial performance is accepted.

The Influence of Environmental Performance on Financial Performance

The test results also show that environmental performance has a positive and significant impact on a company's financial performance. This is indicated by a regression coefficient of 0.950, a t-value of 13.241, and a significance level of 0.000 (<0.05). These findings indicate that companies with better environmental performance tend to have higher levels of profitability.

The results of this study support the research of Theana and Dewi (2025), which found that environmental performance positively impacts company profitability. Therefore, this study shows that good environmental performance not only impacts environmental sustainability but also provides economic benefits for companies. Therefore, the hypothesis that environmental performance positively impacts financial performance is accepted.

Conclusion

Based on the analysis and discussion, it can be concluded that green accounting and environmental performance have a positive and significant impact on financial performance (Return on Assets/ROA) in manufacturing companies listed on the Indonesia Stock Exchange. This indicates that companies that implement green accounting practices and demonstrate good environmental performance tend to increase their profitability.

Furthermore, the research results show that environmental performance has a more dominant influence on financial performance than green accounting. This finding indicates that compliance with environmental regulations and effective environmental impact management not only support environmental sustainability but also provide economic benefits for companies. Therefore, attention to environmental aspects should not be viewed merely as a cost burden, but rather as a long-term investment that supports improved financial performance.

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